

VSP-SDI1X6

1 x 6 3G-SDI Splitter

Easily split and distribute SD/HD/3G-SDI video to six different SDI screens.



Customer Support Information

Order toll-free in the U.S.: Call 877-877-BBOX (outside U.S. call 724-746-5500) • FREE technical support 24 hours a day, 7 days a week: Call 724-746-5500 or fax 724-746-0746
www.blackbox.com • info@blackbox.com

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FEDERAL COMMUNICATIONS COMMISSION AND INDUSTRY CANADA RADIO FREQUENCY INTERFERENCE STATEMENTS

This equipment generates, uses, and can radiate radio-frequency energy, and if not installed and used properly, that is, in strict accordance with the manufacturer's instructions, may cause interference to radio communication. It has been tested and found to comply with the limits for a Class A computing device in accordance with the specifications in Subpart B of Part 15 of FCC rules, which are designed to provide reasonable protection against such interference when the equipment is operated in a commercial environment. Operation of this equipment in a residential area is likely to cause interference, in which case the user at his own expense will be required to take whatever measures may be necessary to correct the interference.

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

This digital apparatus does not exceed the Class A limits for radio noise emission from digital apparatus set out in the Radio Interference Regulation of Industry Canada.

Le présent appareil numérique n'émet pas de bruits radioélectriques dépassant les limites applicables aux appareils numériques de classe A prescrites dans le Règlement sur le brouillage radioélectrique publié par Industrie Canada.

Normas Oficiales Mexicanas (NOM) Electrical Safety Statement

INSTRUCCIONES DE SEGURIDAD

1. Todas las instrucciones de seguridad y operación deberán ser leídas antes de que el aparato eléctrico sea operado.

2. Las instrucciones de seguridad y operación deberán ser guardadas para referencia futura.

3. Todas las advertencias en el aparato eléctrico y en sus instrucciones de operación deben ser respetadas.

4. Todas las instrucciones de operación y uso deben ser seguidas.

5. El aparato eléctrico no deberá ser usado cerca del agua—por ejemplo, cerca de la tina de baño, lavabo, sótano mojado o cerca de una alberca, etc.

6. El aparato eléctrico debe ser usado únicamente con carritos o pedestales que sean recomendados por el fabricante.

7. El aparato eléctrico debe ser montado a la pared o al techo sólo como sea recomendado por el fabricante.

8. Servicio—El usuario no debe intentar dar servicio al equipo eléctrico más allá a lo descrito en las instrucciones de operación. Todo otro servicio deberá ser referido a personal de servicio calificado.

9. El aparato eléctrico debe ser situado de tal manera que su posición no interfiera su uso. La colocación del aparato eléctrico sobre una cama, sofá, alfombra o superficie similar puede bloquea la ventilación, no se debe colocar en libreros o gabinetes que impidan el flujo de aire por los orificios de ventilación.

10. El equipo eléctrico deber ser situado fuera del alcance de fuentes de calor como radiadores, registros de calor, estufas u otros aparatos (incluyendo amplificadores) que producen calor.

11. El aparato eléctrico deberá ser connectado a una fuente de poder sólo del tipo descrito en el instructivo de operación, o como se indique en el aparato.

12. Precaución debe ser tomada de tal manera que la tierra fisica y la polarización del equipo no sea eliminada.

13. Los cables de la fuente de poder deben ser guiados de tal manera que no sean pisados ni pellizcados por objetos colocados sobre o contra ellos, poniendo particular atención a los contactos y receptáculos donde salen del aparato.

14. El equipo eléctrico debe ser limpiado únicamente de acuerdo a las recomendaciones del fabricante.

15. En caso de existir, una antena externa deberá ser localizada lejos de las lineas de energia.
16. El cable de corriente deberá ser desconectado del cuando el equipo no sea usado por un largo periodo de tiempo.

17. Cuidado debe ser tomado de tal manera que objectos liquidos no sean derramados sobre la cubierta u orificios de ventilación.

18. Servicio por personal calificado deberá ser provisto cuando:

    A: El cable de poder o el contacto ha sido dañado; u

    B: Objectos han caído o líquido ha sido derramado dentro del aparato; o

    C: El aparato ha sido expuesto a la lluvia; o

    D: El aparato parece no operar normalmente o muestra un cambio en su desempeño; o

    E: El aparato ha sido tirado o su cubierta ha sido dañada.

Safety Instructions

The splitter has been tested for conformance to safety regulations and requirements, and has been certified for international use. However, like all electronic equipment, the splitter should be used with care. Please read and follow the safety instructions to protect yourself from possible injury and to minimize the risk of damage to the unit.

- Follow all instructions and warnings marked on this unit.
- Do not attempt to service this unit yourself, except where explained in this manual.
- Provide proper ventilation and air circulation and do not use near water.
- Keep objects that might damage the device away from it and be sure to place this unit on a stable surface.
- Use only the power adapter and power cords and connection cables designed for this unit.
- Do not use liquid or aerosol cleaners to clean this unit. Always unplug the power to the device before cleaning.

Table of Contents

1. Specifications

Audio Support — Yes

Auto 3G/HD/SD Detection — Yes

Data Rates — 270 Mbps, 1483 Mbps, 1485 Mbps, 2970 Mbps

SDI Input Cable Equalization — 3G-SDI: 190 ft. (60 m); HD-SDI: 500 ft. (150 m);
SD-SDI: 1000 ft. (300 m)

Eye Pattern Characteristics (HD) — Amplitude: Within 800 mV ±3% (<10%);
Rise overshoot: Less than 2% (<10%); Fall overshoot: Less than 2% (<10%);
Long-time jitter: 0.195 UI (<1.0 UI); Timing jitter: 0.195 UI (<1.0 UI);
Alignment jitter: 0.127 UI (<0.2 UI)

Output Impedance — 75

Reclocking Function — Yes

SDI Protocols Supported — SMPTE 259M, SMPTE 292M, SMPTE 424M, SMPTE 425M

SDI Standards — SD/HD/3G SDI

Video Bandwidth — 2.97 Gbps, 2.97/1.001 Gbps

CE Approval — Yes

RoHS — Yes

Connectors — SDI input: (1) BNC F (75-ohm);
SDI output: (6) BNC F (75-ohm)

Temperature Tolerance — Operating: 32 to 104° F (0 to 40° C);
Storage: -4 to +140° F (-20 to +60° C)

Relative Humidity — 20 to 90%, noncondensing

Power — Input: AC input: 100–240 VAC, 50–60 Hz, 0.8 A;
Output: 5 VDC, 4 A;
Consumption (maximum): 10 Watts

Size — 1"H x 3.2"W x 5.7"D (2.5 x 8.1 x 14.5 cm)

Weight — 0.7 lb. (0.3 kg)

2. Overview

2.1 Introduction

The 1 x 6 SDI Digital Splitter receives one SDI input, perfectly duplicates it, and re-transmits four SDI outputs for real time multi-viewing. It is a reliable video device that splits an SDI, HD-SDI, or 3G-SDI video source to four SDI compliant displays at the same time.

2.2 Features

- Supports 3G/HD/SD triple-rate distribution.
- Includes four separately buffered and reclocked outputs.
- Performs cable equalization and signal retiming.
- Dual color LED indicates input lock and rate.
- Passes all ancillary data.
- Provides automatic input cable equalization up to 1000 ft. (300 m) @ SDI, 500 ft. (150 m) @HD and 190 ft. (60 m) @ 3G-SDI.
- Reclocks SDI signals for cascading so the signals are transmitted farther.
- Interlocked power supply provides stability.

2.3 What's Included

Your package should include the folllowing items. If anything is missing or damaged, contact Black Box Technical Support at 724-746-5500 or info@blackbox.com.

- (1) 1 x 6 SDI Digital Splitter
- (1) 5-VDC, 4 A power supply
- (2) mounting screws
- (1) power cable
- This user manual

2.4 Hardware Description

2.4.1 Front Panel

Figure 2-1 shows the front panel of the splitter. Table 2-1 describes its components.

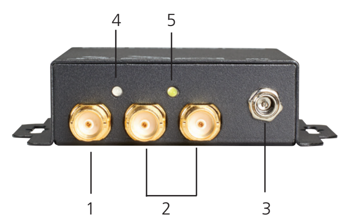


Figure 2-1. Front panel.

Table 2-1. Front panel components.

Number	Component	Description
1	(1) BNC connector	3G/HD/SD–SDI input
2	(2) BNC connectors	3G/HD/SD–SDI outputs 5–6
3	+5 VDC power connector	Connects to a 5-VDC power supply.
4	(1) Signal LED	Lights Green for 3G/HD-SDI. LIghts Orange for SD-SDI.
5	(1) Power LED	Lights Orange when power to the unit is on, but there is no signal. Lights Green when the unit detects any signal (non-SDI signal included).

2.4.2 Back Panel

Figure 2-2 illustrates the back panel of the splitter. Table 2-2 describes its components.

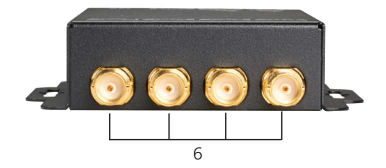


Figure 2-2 Back panel.

Table 2-2. Back panel components.

Number	Component	Description
6	(6) BNC connectors	3G/HD/SD–SDI outputs 1–4

3. Hardware Installation

1. Connect a camera or other devices equipped with 3G/HD/SD-SDI outputs to the splitter's 3G/HD/SD-SDI input.
2. Connect devices equipped with 3G/HD/SD-SDI inputs (for example, monitors or video processors) to the splitter's 3G/HD/SD-SDI outputs.
3. Plug the power adapter cable into a 5-VDC power jack.

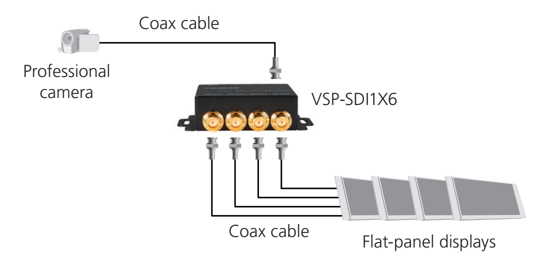


Figure 3-1. Installation diagram.

Appendix. Troubleshooting

A.1 Contacting Black Box

If you determine that your splitter is malfunctioning, do not attempt to alter or repair the unit. It contains no user-serviceable parts. Contact Black Box Technical Support at 724-746-5500 or info@blackbox.com.

Before you do, make a record of the history of the problem. We will be able to provide more efficient and accurate assistance if you have a complete description, including:

- the nature and duration of the problem.
- when the problem occurs.
- the components involved in the problem.
- any particular application that, when used, appears to create the problem or make it worse.

A.2 Shipping and Packaging

If you need to transport or ship your splitter:

- Package it carefully. We recommend that you use the original container.
- If you are returning the unit, make sure you include everything you received with it. Before you ship for return or repair, contact Black Box to get a Return Authorization (RA) number.



About Black Box

Black Box provides an extensive range of networking and infrastructure products. You'll find everything from cabinets and racks and power and surge protection products to media converters and Ethernet switches all supported by free, live 24/7 Tech support available in 60 seconds or less.

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